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	1	50
Zm-POX01	(1) -----	
Zm-POX04	(1) -----QLSPTFYASSCPNLQSIVRAAMTQA V ASEQRM	
Zm-POX05	(1) -----TVTVNEPIANGLSWSFYDVSCPSVEGIVRWHVAEA V RRDIGH	
Zm-POX06	(1) ASSAAHGYGYGYGGDAAAELRVGFYKDSCPDAE A VRRIVAKAVREDPTA	
Zm-POX07	(1) -----GLLESNPGLAYNFYKNSCPSPVDSIVRSVTWAQVAANPAG	
Zm-POX08	(1) -----SPPGKLEVGFYEHSCPQAEDIVRNAVRRG T AREPGV	
Zm-POX10	(1) -----AVRELKVGV Y YAETCPEAEDIVRETMARARAREARS	
Zm-POX16	(1) -----QLSSTFYDTSCP S AMST T SSGVNSAVAQQARV	
Zm-POX17	(1) -----QLKEGFYDYSCPQAEKIV K DYVKAH T PHAPDV	
Zm-POX18	(1) -----AGAAGLDMNFYGS T CPRVER A IVREEMVAT T KAAPT I	
Zm-POX20	(1) -----QLTAD E YDC T CPDAYNIVKQV L IEAHKSDVR I	
Zm-POX21	(1) ---RPVLTPPLGTSRPAAGDLSVYFADSCPQLETIVRSSVDA A QQNVRL	
Zm-POX24	(1) -----QLSPTFYDSSCPNAL S T I SAVNAAVQKENRM	
Zm-POX26	(1) -----QLRVGFYDSSCPAAE I IVQQEVSRAVAANPGI	
Zm-POX28	(1) -----QLRQN Y YGSSCP S AESTVRSV T SQR I QQSFAY	
Zm-POX31	(1) ---AHGYGAYGYGDAAAELRVGFYKDSCPDAE A VRRIVAKAYQEDPTA	
Zm-POX34	(1) -----QLKEGFYDYSCPQAEKIV K DYVKAH T PHAPDV	
Zm-POX37	(1) -----GLTAQLRQD M YAAVCPDLESIVRAAVSKK V QAQPVA	
Consensus	(1) QL FY SCP AESIVR V AV P V	
	51	100
Zm-POX01	(1) -----	
Zm-POX04	(33) GASLLRLFFHDCFVQGCDG S ILL D AGG-----EKTAGPNLNS S -VRGFEV	
Zm-POX05	(43) AAGL T RIFFHDCF P QGCDASVLLSGSN-----SEQIEVPNQTLRPEALKI	
Zm-POX06	(51) NAPLLRLHFHDCFVRGCD S SVL N STRGNT-----AEKDAKPN-HT T DDAFDV	
Zm-POX07	(40) PARLLRLHFHDCFVKGCDAS T LL D TAQ-----SEKTAAPN-L S MGGYEV	
Zm-POX08	(37) GAGL T RMHFHDCFVRGCDG S IL N STPDNK-----AEKDSVANNPS-MRGFDV	
Zm-POX10	(36) VAS V MRLQFHDCFVNGCDG S VLMDATPTMPG--EKDALS N INS-LRSFEV	
Zm-POX16	(33) GASLLRLHFHDCFVQGCDAS T LLNDTS-----GEQTQPPNLTLNPR A FDV	
Zm-POX17	(33) ASTLLRTHFHDCFVRGCDASVLLNATGGSE--AEKDAAPN-LT T LRGFGF	
Zm-POX18	(37) AGPLLRLHFHDCFVRGCDASVLL D STPTST--AEKDATPN-LT T LRGFGS	
Zm-POX20	(33) YASLTCLHFHDCFVQGCDG S VLLDA V PGVANSTEKLAPANNNS-ARGFPV	
Zm-POX21	(48) TAGLLRLLFHDCF P QGCDAS T LLDNG-----ERGLPPNVGLQQEAVQI	
Zm-POX24	(33) GASLLRLHFHDCFVQGCDASVLLADNAATGFTGEQGAAPNAGS S -VRGFDV	
Zm-POX26	(33) AAGLLRLHFHDCFVG G CDASV L D T KGNT-----AEK DAGPN-L S -VRGFEV	
Zm-POX28	(33) GPGTLRLFFHDCFVRGCDASV L MAP---NGDDESH S GADATLSPDAVDA	
Zm-POX31	(47) NAPLLRLHFHDCFVRGCDG S VL N STRGNT-----AEKDAKPN-HT T DDAFDV	
Zm-POX34	(33) ASTLLRTHFHDCFVRGCDASVLLNATGGSE--AEKDAAPN-LT T LRGFGF	
Zm-POX37	(37) VGAT T RLFFHDCFVEGCDASV L VSTG--NN T AEKDHP S NLSLAGDGFDT	
Consensus	(51) AA LLRLHFHDCFV GCDASVLL AT AEKDA PN S LRGFDV	

FIG 1A

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		101		150
Zm-POX01	(1)	-----MSCCMQGG-----		GPA
Zm-POX04	(76)	IDTIKRNV EAA -CPGVVSCADILALAARDGTNLLG-----		GPT
Zm-POX05	(88)	IDD I RAAVH A V--CGPTVSCADITTLATRDAVVASG-----		GPF
Zm-POX06	(97)	IDD I KEALEKR--CPGTVSCADILA A ARDAVS L ATKVVTKGWSRDGNL		
Zm-POX07	(83)	IDAIKAQLERA--CPGVVSCADIV A LAARDAVSYQFK-----		ASL
Zm-POX08	(84)	VDDAKAVLEAH--CPRTVSCADIV A FAAARD D SAYLAG-----		GLD
Zm-POX10	(83)	VDEIKDALEER--CPGVVSCADIV A MAARD D AVLTG-----		GPN
Zm-POX16	(78)	VNS I KAQ EAA --CPGVVSCADIL A VAARDGVVALG-----		GPS
Zm-POX17	(79)	IDRIKALLEKE--CPGVVSCADIV A LAARD D SV V IG-----		GPF
Zm-POX18	(83)	VQRVKDRLEEA--CPGVVSCADIV A LALMARD D AVVIAN-----		GPS
Zm-POX20	(82)	VDKVKA A LED A DA--CPGVVSCADIL A LA A EIS V ELSG-----		GPK
Zm-POX21	(91)	VEDIR G KV HAA --CPGTVSCADITVLATRDAV S LSG-----		GPS
Zm-POX24	(82)	I A N I KAQ V EV A -----CKQT V SCADIL A VAARD D S V VALG-----		GPS
Zm-POX26	(79)	V D R I KAR V EQ A --CFGV V SCADIL A FAAARD D S V ALG-----		GNA
Zm-POX28	(80)	INKAKAA V ALPGCAGKV S CADIL A MAARD D V S LLG-----		GPS
Zm-POX31	(93)	IDDIKEALEKR--CPGTVSCADIL A A R DA D AVS L ATKVVTKGWSRDGNL		
Zm-POX34	(79)	IDRIKALLEKE--CPGVVSCADIV A LAARD D SV V IG-----		GPF
Zm-POX37	(85)	V I QAKAA V D A VPACANQ V SCADIL A LA A TRD V ELAG-----		GPS
Consensus	(101)	ID IKA LE CPG VSCADILALAARDAV LAG		GP
		151		200
Zm-POX01	(12)	Y K PLGRRDG L APASNAAVLAALPPPTSKVPT T LSFLAKI-NLDVTD L VA		
Zm-POX04	(113)	WSVPL G RRD S T T ASASLANS-NPPPPTAS I GT L ISLFGRQ-GLSPRD M TA		
Zm-POX05	(125)	FEVPL G RRD G LA P ASS D LVG-TLPAPFFD V PT I ESFKNR-SLD K ADLVA		
Zm-POX06	(145)	YQVET G RRD G R V SR A KEAVK-NLPDSMD G IR K LIRR F ASK-NLSVKDLAV		
Zm-POX07	(121)	WQVET G RRD G TV S LA N TG-ALP P SPFAGFAG L IQSF S FS D RLVA		
Zm-POX08	(121)	YKVPS G RRD G RV S KE V E D LDNN N P A P T D E DEL I ESF K KR K -GLNADD I VT		
Zm-POX10	(120)	WEVR L G R ED S M T AS Q E D AD N IMPSPRANAS A TRL F AGL-NLSVTD L VA		
Zm-POX16	(115)	WTVLL G RRD S TS T AS S ASLANS-DLPPPT S Q A LL A Y S KK-NLDATD M VA		
Zm-POX17	(116)	WSVPT G RRD G TV S IK Q AL D -Q I P A P T M N F T Q I LSQSF Q NK-SLN L ADL V W		
Zm-POX18	(120)	WPVAL G RRY G RV S LA N T-QLPPPTAN F TR I LSMF A AK-GLSVRDLVV		
Zm-POX20	(119)	WAVLL G -RLDSKKAD F KSAENLP-SPFD N TV I E Q K F AAV-GLHTVD L VA		
Zm-POX21	(128)	ETVPL G R L DSA P ASS N DVF-TLP P PT T AT D E I TA F G S KNLSD P ADL V A		
Zm-POX24	(119)	WTVPL G RRD G TV S AS S ASLANS-DLPPPF F N I G Q LI T A F G C NK-GF I ATE M AT		
Zm-POX26	(116)	YQVPA G RRD G GS V SR A S D TNG-NLPPPTAN V A Q LT I F G TK-GLT Q KEM V I		
Zm-POX28	(119)	YGVEL G RLDG K TFN R AI V KH-VLP P GF N LDQ I N A LF A QN-GLT Q TDM I A		
Zm-POX31	(141)	YQVET G RRD G RV S RA K AEAVK-NLPDSMD G IR K LIRR F ASK-NLSVKDLAV		
Zm-POX34	(116)	WSVPT G RRD G TV S IK Q AL D -Q I P A P T M N F T Q I LSQSF Q NK-SLN L ADL V W		
Zm-POX37	(124)	YAVEL G RLDG L VS M STNV D G-KLPPPF F N I DQ I T S IF A LN-NL S QAD M IA		
Consensus	(151)	W VPLGRRDG VS A E LP PT NL LI FA K LS DLVA		

FIG 1B

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		201	250
Zm-POX01	(61)	LSGHTVGIAHCGSF DNRLFP-----TQDPTLNKFEAGQLYRTCPNT	
Zm-POX04	(161)	LSGAHTIQARCTIFRGRIGY-----DTDINASFAALRQQTCPRS	
Zm-POX05	(173)	LSGAHTVGRGHCVSFSDRLPP-----NADDGEMDPAAFRQRLLTAKCASD	
Zm-POX06	(193)	LSGAHAIGKSHCPSIAKRLRNFTAHR---DSDPTLDGAYAAELRRQCRSR	
Zm-POX07	(168)	LSGAHTIGVASCSSVTPRLYQGNASS---VDPLLDSAYARTLMSSCPNP	
Zm-POX08	(170)	LSGAHTIGRSHCSSFTERLYNFSGQLG--RTDPSLDPAYAEHLKMRCPWP	
Zm-POX10	(168)	LSGSHSIGEARCGSIVFRLYNQSGSG--RPDPHMDTAYRRSLDALCPKG	
Zm-POX16	(162)	LSGAHTIQAQCSSFNGHILYN-----DTNTNAABATSLKANCPMS	
Zm-POX17	(164)	LSGAHTIGISQNSFSERLYNFTGRGGPDDADPSLDPLYAAKLRLKCKTL	
Zm-POX18	(167)	LSGHTIGTAHONLFSDRLYNFTGANSLADVDPALDAAYLARLRSRORSL	
Zm-POX20	(166)	LSGAHTFCRVQCQFVTGRLYNFGTN--RPDPTLNNSCYRAFLAQRCPQN	
Zm-POX21	(177)	LSGAHTVKGKARCSSFGDVAGP-----ATDDVTR----CVTATCSAP	
Zm-POX24	(167)	LSGAHTIGQAQCKNFRDHLYN-----DTNTNQGEASSLKANCPRP	
Zm-POX26	(164)	LSGAHTIGSSHCSSFSGRLSGSATAG--GQDPIMDPAYVAQLARQCPQG	
Zm-POX28	(167)	LSGAHTIGVTHCDKFVRDITYFKQ--RLAWNPPMNLDEFRLSLRRVCPLS	
Zm-POX31	(189)	LSGAHAIGKSHCPSIAKRLRNFTAHR---DSDPTLDGAYAAELRRQCRRR	
Zm-POX34	(164)	LSGAHTIGISQNSFSERLYNFTGRGGPDDADPSLDPLYAAKLRLKCKTL	
Zm-POX37	(172)	LSAHTVGFAGCSTIFSDRIO-----PQSVDPTMNATYAEDLQAACPAG	
Consensus	(201)	LSGAHTIG AHC SFS RLYN G	DPTLD AYAA LR CP
		251	300
Zm-POX01	(103)	AT-----VNTTANDVRTPNAFDNKYYVDLLNREG---LFTSDQDLIEN--	
Zm-POX04	(201)	GGDG----NIAPIDVQTPVREDTAYFTNLLSRRG--LFHSDQELFNG--	
Zm-POX05	(216)	PSGN---VVTQVL DV RTPN AF DN KYYFDL TAK QG--LFKSDQCLIINHP-	
Zm-POX06	(240)	RD----NTTELEMVPGSSTAEGTAYYGLVAERRA--LFHSDDEALLRN--	
Zm-POX07	(214)	SP----ASATVALDGGTPFREDSSYYSRVQOKOG--TLASDAAILAQN--	
Zm-POX08	(218)	SSNDQMDPTVVPLDPVTPATFDNQYYKNVLAHKV--LFISDNTILEN--	
Zm-POX10	(215)	GD----EEVTGGLD-ATPRVEDNQYFEDLVALRG--FLNSDQELFSD--	
Zm-POX16	(202)	GGS----SIAPLDTMPTVFDNDYYKNLISQKG--LLHSDQELFNN--	
Zm-POX17	(214)	TD----NTTIVEMDPGSFRTEDLSSYYRGVILKRRG--LFQSDAALITD--	
Zm-POX18	(217)	AD----NTTIVEMDPGSFLSF DSSYYSLVARRRG--LFHSDAALITD--	
Zm-POX20	(213)	GS----PSAINDLDPPTPNLFDNHYYTNLEVNRG--FLGSDQELKSAPQ	
Zm-POX21	(214)	GSG----DTLRDLDFLTPAVFDNLYFVELTLRKNGVMLPSDQGYVSDP-	
Zm-POX24	(207)	TGSGD--GNIAPLDTTPYSEDNAYYSNLISQKG--LLHSDQELFNG--	
Zm-POX26	(212)	G-----DPIVPM DYVSPNAEDEGFYKGVMNSNRG--LLSSDQALLSD--	
Zm-POX28	(214)	YSP----TAFAMLDVTTPRVEDNAYFNNLRYNKG--LLASDQVLFIDR-	
Zm-POX31	(236)	RD----NTTELEMVPGSSTAEGTAYYGLVAERRA--LFHSDDEALLRN--	
Zm-POX34	(214)	TD----NTTIVEMDPGSFRTEDLSSYYRGVILKRRG--LFQSDAALITD--	
Zm-POX37	(215)	VDP----NIALQLDPVT PQA FDNOYFANLV DGRG--LFASDQVLFSDA-	
Consensus	(251)	L LD TP FDNAYY LL RRG LF SDQALLS	

FIG 1C

Title: Maize Peroxidase Genes and Their Use for Improving
Plant Disease Resistance and Stalk Strength

Inventor(s): Duvick et al

Application No: Not Assigned

Atty Dkt No: 35718/242052(5718-158)

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	301	350
Zm-POX01	(143) --ATTRP I VTREAVD-- QDAFEDQFVYSYVKMGQVNVLTGSQ-GQVRANC	
Zm-POX04	(242) --GSQDALVRQYSA-- SASLFNADFVAA M IRMGNVGVLTGTA-GQIRRNC	
Zm-POX05	(259) --DTKRAATR F ALN-- QAAFFDQF A RSMVKMSQMDILTG-SAGEIRRNC	
Zm-POX06	(281) --GETRALVYRYRDAPSEAPFLADFG C ASM N MG R VGVLTG A Q-GEIRKRC	
Zm-POX07	(255) --AAAAQM V ADLTN-- PIKF Y AAFSMSMKMGR V DVLTGAN-GQIRKQC	
Zm-POX08	(263) --PWTAGMVHFNA A -- VEKA W QVKFAKAM V KMG V QVLTGDE-GEIREKC	
Zm-POX10	(255) -NTTRRRVVERLSK-- DQDAFFRAFIEGM I KMGE L Q---NPRKGEIRRNC	
Zm-POX16	(242) --GSTDSTVSNEAS-- SF G R L H Q R L HGGHGEDGEPRPAHDQ-WADQAHL	
Zm-POX17	(255) --ASKAD I LSVIN-APPEV F EQV F AGSMVKMGA E EVKTGSE-GEIRKHC	
Zm-POX18	(258) --PATRAYVQRQATGLFTA E FRDF A DSM V KM S T H DVLTGQQQGETRKKC	
Zm-POX20	(256) AQGV T APVVDQ H AT-- SQA A F S S F Q S M N INMGN T QPLTD P AKGEVRCDC	
Zm-POX21	(259) --RTSW V VQGHADN-- HWWF D Q F RTSM K KMSQ L RGPQG-NVGEIRRNC	
Zm-POX24	(250) --GSTDNTVRNFAS-- NSAAFSSA AAA MVKMGN S PLTGSQ-GQIRLTC	
Zm-POX26	(251) --KNTAVQVV T YAN-- DPATFQAD F AAAMVKMGSV G VLTGTS-GKVRANC	
Zm-POX28	(256) --RSRPTVNLEAAN-- ATAF Y EA F VAA M K G RIGE K TG-ADGEIRRVC	
Zm-POX31	(277) --GETRALVYRYRDAPSEAFLAEFG A SM N MG R VGVLTG A Q-GEIRKRC	
Zm-POX34	(255) --ASKAD I LSVIN-APPEV F EQV F AGSMVKMGA E EVKTGSE-GEIRKHC	
Zm-POX37	(257) --RSQPTVVVAQ N -- ATDFEQAFVDA T TR G RV G VKTDP S LG D VR R DC	
Consensus	(301) G TR LV FA FF FAASMV K M V VLTG GEIRK C	

	351	397
Zm-POX01	(188) SARNGAAAGDSDLPWSSVVIETVADAAGSLVL-----	
Zm-POX04	(287) RVVNS-----	
Zm-POX05	(303) SVRNTALGDVSSAQLETTAGDEGLAADA-----	
Zm-POX06	(328) AFVN-----	
Zm-POX07	(299) RQVNTS-----	
Zm-POX08	(308) FAVNPHY-----	
Zm-POX10	(299) RVANNSPWQPRTGMASGQSTSEL R -----	
Zm-POX16	(287) LEA Q LVLI I KDGRPIDDPAQS Y RTC M IRI H LETTI P MQTEIYTYEYV	
Zm-POX17	(301) ALVNKH-----	
Zm-POX18	(306) NLVN-----	
Zm-POX20	(304) RVANDD-----	
Zm-POX21	(303) FRPNTNGIAASA-----	
Zm-POX24	(295) STVN-----	
Zm-POX26	(296) RVA-----	
Zm-POX28	(300) TAVN-----	
Zm-POX31	(324) AFVN-----	
Zm-POX34	(301) ALVNKH-----	
Zm-POX37	(302) AF EN -----	
Consensus	(351) VN	

FIG 1D